3577

Diag. Chy. No 8700

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. ..... Office No. H-3577

LOCALITY

State ALASKA

General locality SHUMAGIN ISLANDS

Locality POPOF STRAIT---SOUTHERN END

194~~4~~ 13

CHIEF OF PARTY

J. B. Miller

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DATE MARCH 18, 1914

8-1870-1 (1)

3577

DEPARTMENT OF COMMERCE
Coast and Geodetic Survey

O. H. Tittmann, Supt.

ALASKA

Shumagin Islands

ORIGINAL HYDROGRAPHIC SHEET X3577

POPOF STRAIT, SOUTHERN END

Surveyed in July, August, September, and October by the party on the C. & G. S. Steamer PATTERSON

1913.

James B. Miller, Assistant, C. & G. Survey, Chief of Party.

George C. Mattison, Aid, C. & G. Survey, in charge of hydrographic party.

SCALE 1:20,000

POSITIONS PLOTTED BY

George C. Mattison.

DEPARTMENT OF COMMERCE
Coast and Geodetic Survey,

O. H. Tittmann, Supt.

SOUTHWEST ALASKA

Shumagin Islands

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET NO. 3577

Surveyed by the Steamer PATTERSON, July - October, 1913.

1. REPORTS, LIMITS, SCALE, METHODS, OBSERVER.

I have the honor to report as follows, upon hydrographic sheet No. 1, which shows hydrography in Popof Strait, and to the south of it, in the Shumagin Islands, Southwest Alaska, as done in July, August, September and October, 1913, by a party from the Steamer PATTERSON. The limits on the north are latitude 55°- 18', and the shore of Popof Island to longitude 160°- 24' - 30". The west limit is the shore of Unga Island, with the exception of Delarof Harbor, where the limit is a line from Half-Way Rock, to the pinnacle just south of the mouth of the harbor. The southeast shore of Unga Island was sounded to a distance of 1/2 mile off shore to longitude 160°- 32' on the west. The western limits of the deep soundings, south of Popof Strait is longitude 160°- 30' - 30" from latitude 55°- 08' - 40", to latitude 55°- 05'. From 55°- 05' to 55°- 04', the west limit is a north and south line through Sea Lion Rocks. The south limit of the sheet is latitude 55°- 04'. The east limit, from latitude 55°- 04' to latitude 55°- 10', is longitude 160°- 18' - 30". Along 55°- 10', the limit runs to 160°- 20' - 30", where it runs due north to latitude 55°-13'- 50", thence west to longitude 160°- 21', thence south to latitude 55°- 12' - 30", thence west to longitude 160°- 21' - 30", thence south to latitude 55°-11'-15", thence west to longitude 160°- 23' - 45", thence north to latitude 55°-11'-50", thence east to longitude 160°- 22' - 30", thence towards △ Kelp to latitude 55°- 13' - 30", thence west to longitude 160°- 24' - 30", thence north to ⊙ Ore, on the shore of Popof Island. A short line was also run on latitude 55°- 13' - 30", between longitudes 160°- 18 - 40", and 160°- 20' - 30". The scale of the sheet is 1:20,000. Launch No. 47 was used for all the sounding. In depths less than 20 fathoms, the hand lead was used, while for greater depths, the Cosmos Sounding Machine was used. The soundings taken with the machine should be corrected according to the following table.

Correct Depths with Cosmos Machine and Attached Register.

Machine Reading	Corrected Depth 300 on reel	200 on reel	Machine Reading	Correct Depth. 300 on reel	200 on reel
10	11.0	10.5	60	65.4	63.0
20	22.0	21.0	70	76.1	73.5
30	32.9	31.5	80	86.8	84.0
40	43.8	42.0	90	97.4	94.5
50	54.6	52.5	100	108.0	105.0

The table shows the correct depth, with first, 300 fathoms on the reel, second, 200 fathoms on the reel. George C. Mattison, Aid, C. & G. S. was in charge of the work.

2. DANGERS.

There is a dangerous rock south of Red Cove, with a least depth found of 8 1/2 feet. This rock is 2,000 meters, S 27° W. from the long point southeast of Red Cove. The rock is about 6 meters wide across the top and is covered with kelp. Only for a short time each year, is the kelp long enough to show on top of the water. The launch was anchored on this rock during the noon hour, on the day it was sounded out. In the middle of Squaw Harbor, and 2,000 meters from its head, is a sandy shoal, about 40 meters wide, with a least depth of 24 feet. 1,000 meters S 70° E from this pinnacle just south of the entrance to Squaw Harbor, is a rocky shoal, on which the least depth found was 39 feet. This rock was not fully sounded out, and it is probable that less water may be found on it. About 600 meters, N 73° E from Sea Lion Rocks, is a rock, which breaks at low water when a heavy sea is running. This position was obtained from two cuts, and is apt to be in error. It should be better located when the sheet is finished at some future date.

3. CHARACTER OF BOTTOM.

In general the bottom is sandy, varying in character in different places, being hard in the shoaler places, soft or sticky in the deeper. North of latitude 55°- 11', the bottom is very irregular, rising 70 fathoms in some places within a distance of 400 meters. The shoal soundings south of latitude 55°- 14', have not been developed. Near the steep point about 2,200 meters S.W. from the head of Red Cove, the bottom is very foul for a distance of 400 meters off shore. 2,500 meters, S 87° E from the highest point of Egg Island, is a rocky shoal, 240 meters wide with a least depth found of 16 fathoms. Between the head of Red Cove and the point southeast of it, the bottom is very foul with rocks and ledges, for a distance of 400 meters off shore, and should be avoided. 280 meters S 34° E from this point is a rock which breaks at low tide. Along the shore of Unga Island from the north limit of the sheet to Kelly's Rock, the bottom is fairly clear of rocky dangers, with the exceptions to be mentioned. There is a rocky ledge extending off Hard Scratch Point in a northeasterly direction. South of the entrance to Squaw Harbor, and 350 meters north of the pinnacle rock, is a rocky ledge bare at low tide, extending 200 meters off shore. There is another rocky ledge, bare at low water, and covered with kelp, extending 200 meters due east from the same pinnacle rock. For 900 meters along the shore northwest of Kelly's Rock Fish Station, the bottom is very foul from 120 to 250 meters from the high water line. From Kelly's Rock to Half Way Rock, the bottom is very regular, except at the head of the

deep bight, midway between, where the bottom is foul with boulders and kelp. From Delarof Harbor to Unga Cape, the bottom is very irregular along the shore, in some places 200 meters from the high water line. The deep soundings in the southern half of the sheet, indicate a fairly even bottom and quite regular.

4. ANCHORAGES.

Red Cove and the cove just southeast of it are good anchorages when northerly or easterly winds are blowing. Anchor in from 10 to 20 fathoms, as desired. Squaw Harbor is an excellent anchorage, and is said to be safe in all winds. The sand shoal in the center is used by fishing vessels for a winter anchorage, and is considered safe. Anchor according to choice in from 9 to 20 fathoms, sticky bottom. When some southerly winds are blowing, making it unsafe to lie in Unga Harbor, a fair anchorage may be found in from 7 to 14 fathoms, in the bight north of Kelly's Rock.

5. CURRENTS.

The only currents noticed were those due to tide, extreme current estimated as less than 1 knot. Flood tide flows north, while ebb tide flows south.

6. DIRECTIONS.

To enter Squaw Harbor, favor the north shore slightly, to avoid the sandy shoal extending out from the south shore.

Respectfully submitted,

G. C. Matthewson

Aid, C. & G. Survey.

APPROVED:

James B. Miller

Assistant, C. & G. Survey,
Chief of Party.

To the Superintendent,
Coast and Geodetic Survey,
Washington, D. C.

At Sea, November 10, 1913.

SHEET NO. 3577 LOCALITY: SHUMAGIN ISLANDS, S. W. ALASKA

DATE 1915.	BOAT	LETTER	VOL.	HOURS	POSITIONS	SDGS	MILES. (Stat)
July 22	Launch No.47	a	1	9.5	148	466	27.4
Aug. 12	" "	b	1	9.0	138	454	28.0
" 13	" "	c	1&2	8.5	140	335	29.3
" 14	" "	d	2	8.0	121	388	21.8
" 15	" "	e	2&3	8.5	107	485	26.0
" 16	" "	f	3	9.0	95	292	33.3
" 18	" "	g	3	9.0	157	507	27.7
" 22	" "	h	3&4	2.0	34	78	4.5
" 23	" "	j	4	9.0	98	240	26.6
Sept. 6	" "	k	4	3.5	49	141	6.6
" 8	" "	l	4	9.5	114	268	26.6
" 9	" "	m	5	9.0	115	375	17.0
" 10	" "	n	5	9.0	70	156	31.8
" 11	" "	o	5	9.0	53	143	31.8
" 15	" "	p	5	9.0	52	130	33.0
" 16	" "	q	6	9.0	53	125	34.0
" 19	" "	r	6	9.0	54	118	32.8
" 20	" "	s	6	9.0	54	132	32.7
" 24	" "	t	6	9.0	94	270	26.6
" 25	" "	u	6	8.5	32	84	20.0
" 26	" "	v	7	7.5	46	93	26.6
" 27	" "	w	7	8.5	117	358	24.0
" 30	" "	x	7	4.0	29	70	17.2
Oct. 1	" "	y	7	4.5	32	79	17.7
" 6	" "	z	7	6.5	44	103	22.8
" 7	" "	a'	7&8	8.0	96	232	16.5
				205.0	2142	6122	642.3

Sq. statute Miles: 72

VEC
Mar.28,1914.

HYDROGRAPHIC SHEET 3577.

Popof Strait, Shumagin Islands, Alaska, by

Assistant J. B. Miller in 1913.

TIDES.

	Sand Point ft.
Mean lower low water, or plane of reference on staff	3.5
Lowest tide observed " "	1.6
Highest " " " "	13.1
Mean range of tide	5.1

Hyd. Sheet No. 3577.

This sheet was projected and the hydrography executed in 1913 protracted and plotted by field party. The 1914 hydrography was protracted plotted by myself.

The position of Top. signal Pet or Pat was plotted incorrect on this sheet. Its position was found not to agree with that on Hyd Sh. No 3578 or Top. Sh. No. 3434. The signal is called Pet and Pat but both seem to mean the same signal. The position of the signal as shown on Top. Sh. No 3434 was assumed correct as the descriptive report for 3434 could not be found. The signal was changed and all hydrography affected was corrected.

At the shoal in the N.E. part of this sheet so many positions were taken and the paper so badly perforated that it was difficult to get the soundings on so as to be legible. Only a very few of the soundings could be plotted. A note was placed on the sheet naming the shoalest soundings.

There is part of a rock awash symbol about 200 meters NW of O Log. This was placed by field party and may have been placed by mistake and attempted to erase. Nothing was found in the records to indicate its existance except

Hyd. Sheet No. 3577

the boat sheet and the rock shown on boat sheet probably is the same one shown on this sheet 200 due west of ⊙ Log.

The rock awash near ⊙ Pin seems to belong about 50 meters east of its present location. It was placed by field party and is referred to in Vol 7 page 20 of sounding records. The reef or what ever is meant by the symbol just south of this rock was taken from Top. Sheet No. 3430 just as it was shown on that sheet.

The 1914 hydrography on this sheet is found in Vol. 1 of the soundings books with Hyd. Sheet No. 3706.

The curves on this sheet have not been verified.

L. E. Bolinger

Proj and 1913 hyd. prot and plotted by Field Party
Ver. and Inked by L.E.B.

1914 hyd. Prot, plotted and inked by L.E.B.

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H. 3577.

Additional soundings in the area of reported breakers, 700 meters E. N. E. of triangulation station "Seal"would be desirable.

The multiplicity of positions taken over the shoals one-half mile east of station "Pin" and the shoal 1 1/2 mile west of station "An" could have been omitted. Two or at most three positions at the point of the least depth would be sufficient.

Soundings on the sheet are well spaced.